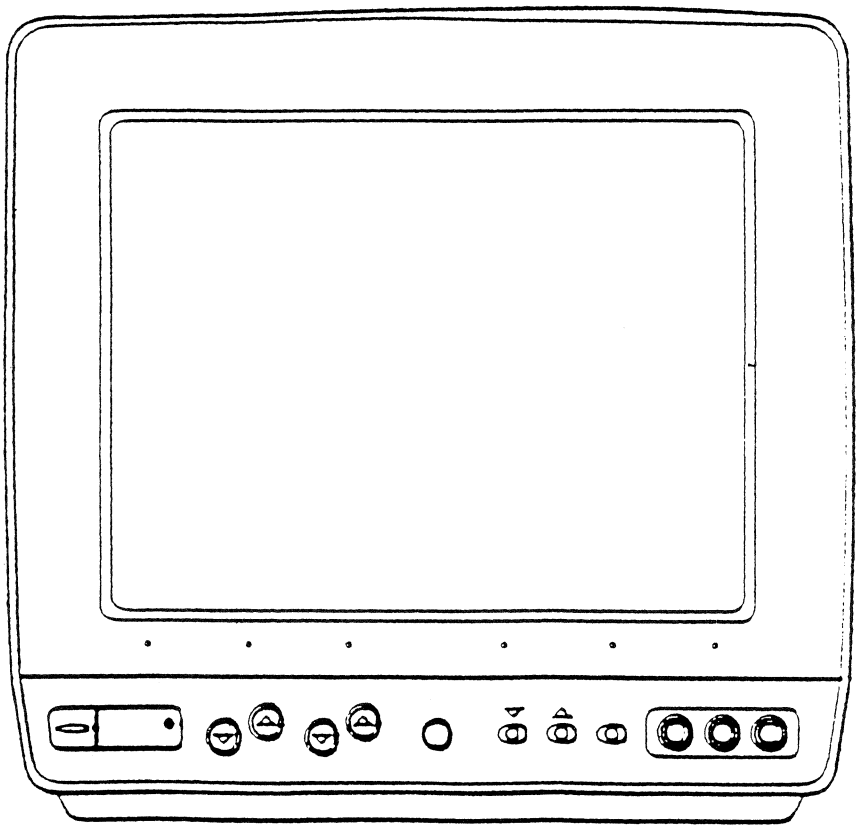
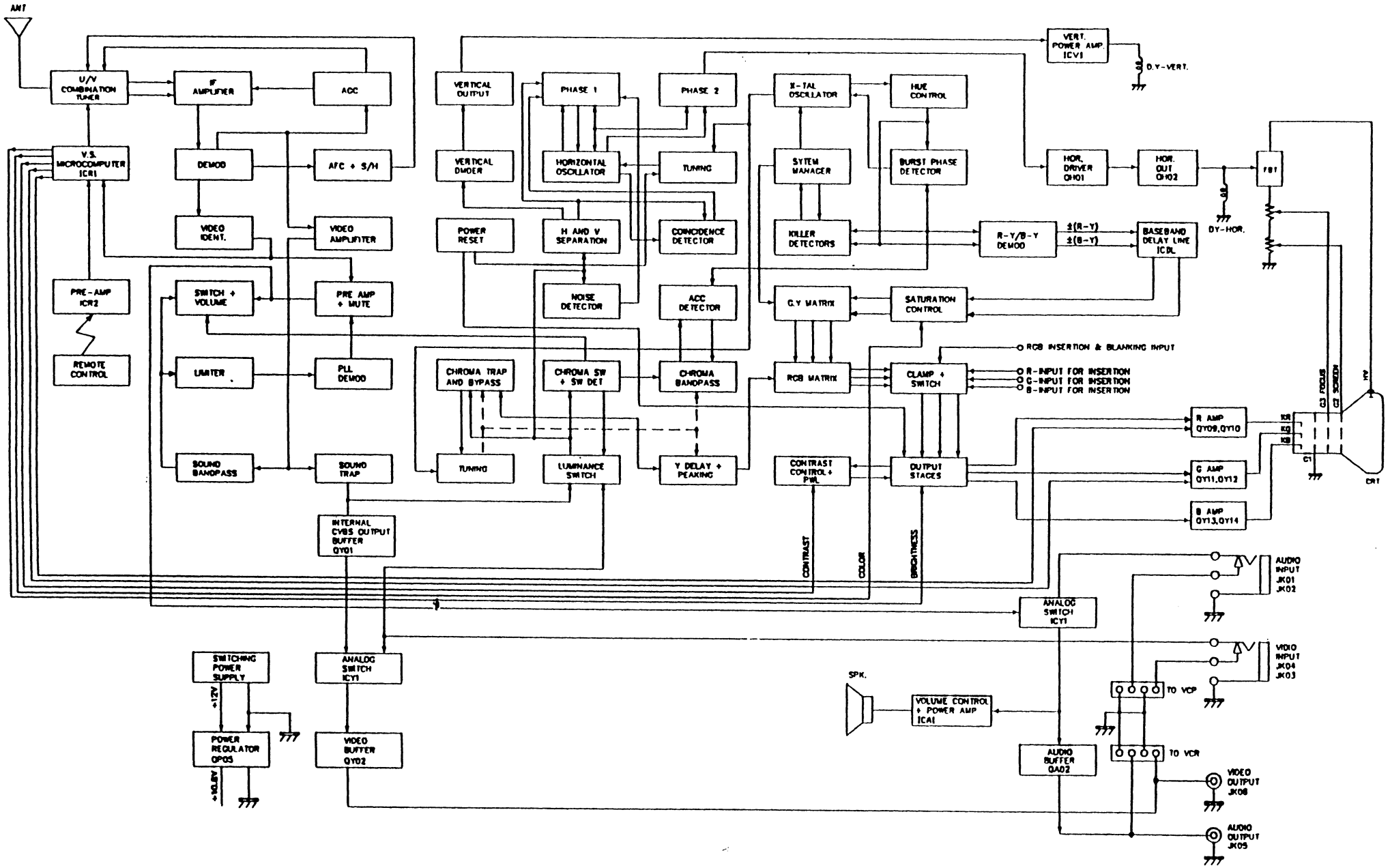
Service Manual

CTV - 810

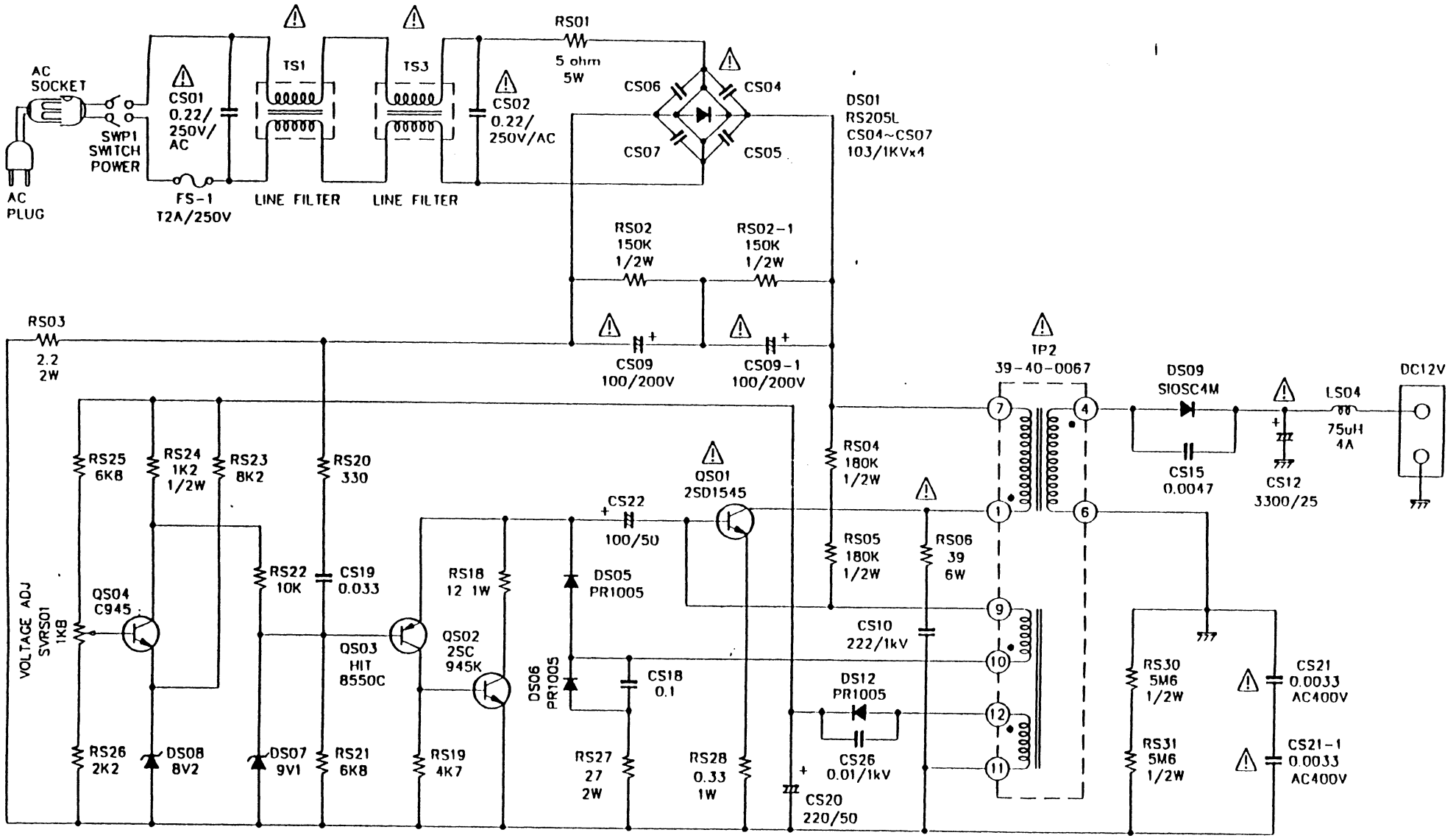
9" COLOR TV/MONITOR
AC/DC OPERATION WITH REMOTE CONTROL



SuperTech
SOUND & VISION


ANT
U/V COMBINATION TUNER
IF AMPLIFIER
AGC
V.S. MICROCOMPUTER ICR1
DEMOD
AFC + S/H
VIDEO IDENT.
VIDEO AMPLIFIER
PRE-AMP ICR2
REMOTE CONTROL
SWITCH + VOLUME
PRE AMP + MUTE
LIMITER
PLL DEMOD
SOUND BANDPASS
SOUND TRAP
INTERNAL CVBS OUTPUT BUFFER QY01
VERTICAL OUTPUT
VERTICAL DIVIDER
POWER RESET
PHASE 1
HORIZONTAL OSCILLATOR
H AND V SEPARATION
NOISE DETECTOR
PHASE 2
TUNING
COINCIDENCE DETECTOR
ACC DETECTOR
CHROMA TRAP AND BYPASS
CHROMA SW + SW DET
CHROMA BANDPASS
TUNING
LUMINANCE SWITCH
Y DELAY + PEAKING
X-TAL OSCILLATOR
SYTEM MANAGER
KILLER DETECTORS
G.Y MATRIX
RGB MATRIX
CONTRAST CONTROL + PWL
HUE CONTROL
BURST PHASE DETECTOR
R-Y/B-Y DEMOD
±(R-Y)
±(B-Y)
SATURATION CONTROL
RGB INSERTION & BLANKING INPUT
CLAMP + SWITCH
R-INPUT FOR INSERTION
G-INPUT FOR INSERTION
B-INPUT FOR INSERTION
OUTPUT STAGES
CONTRAST
COLOR
BRIGHTNESS
VERT. POWER AMP. ICV1
D.Y-VERT.
HOR. DRIVER QH01
HOR. OUT QH02
FBT
DY-HOR.
BASEBAND DELAY LINE ICBL
R AMP QY09,QY10
G AMP QY11,QY12
B AMP QY13,QY14
CRT
G3 FOCUS
G2 SCREEN
HV
ANALOG SWITCH ICY1
AUDIO INPUT JK01 JK02
VIDIO INPUT JK04 JK03
TO VCP
TO VCR
VIDEO OUTPUT JK08
AUDIO OUTPUT JK05
AUDIO BUFFER QA02
SPK.
VOLUME CONTROL + POWER AMP ICA1
SWITCHING POWER SUPPLY
+12V
+10.8V
POWER REGULATOR QP05
ANALOG SWITCH ICY1
VIDEO BUFFER QY02

CTV-810



SUBFIX	MOD RECORD
REV. 0	1998/4/29
REV. 1	
REV. 2	
REV. 3	
REV. 4	

ACTION ELECTRONIS CO., LTD.
億聲電子股份有限公司

TITLE: CTV-810 SWITCH POWER SCHEMATIC DIAGRAM

DRAWER	DESIGN	APPROVED	DRAWING NO	REV.
曾美華	陳文男		05-T6-1401	0
				SH3

B/I/U/L/DK

REVISION | 0 |

ACTION ELECTRONICS CO., LTD
TV ELECTRICAL SPECIFICATION

MODEL NO: CTV-810(PAL) OUTPUT: 50mV DATE:86/06/27
SUPPLY VOLTAGE : AC 230V/50HZ LOAD : 16 ohm TEST:S.K.CHANG
GERERAL INFORMATION : TV 75 OHM INPUT ANT. SIFE VOLTAGE 0 dB =1uV

DESCRIPTION		UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
VL BAND										
TUNING RANGE	HIGH	MHZ	62.25	65.25						
	LOW	MHZ	48.25	45.25						
MAX/USABLE SENS	CH - 2	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 3	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 4	dB	32/46	26 /40	/	/	/	/	/	/
IF REJ.	CH - 3	dB	40	50						
IMAGE REJ.	CH - 3	dB	40	50						
VHF BAND										
TUNING RANGE	HIGH	MHZ	224.25	228.00						
	LOW	MHZ	175.25	140.00						
MAX/USABLE SENS	CH - 5	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 9	dB	32/46	26 /40	/	/	/	/	/	/
	CH - 12	dB	32/46	26 /40	/	/	/	/	/	/
IF REJ.	CH - 9	dB	50	60						
IMAGE REJ.	CH - 9	dB	40	50						
UHF BAND										
TUNING RANGE	HIGH	MHZ	855.25	860.00						
	LOW	MHZ	471.25	435.00						
MAX/USABLE SENS	CH - 21	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 30	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 40	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 50	dB	36/52	32 /46	/	/	/	/	/	/
	CH - 60	dB	36/52	32 /46	/	/	/	/	/	/
IF REJ.	CH - 40	dB	40	50						
IMAGE REJ.	CH - 40	dB	30	40						
ADJ. PIX. ATT.		dB	20	30						
ADJ. SND. ATT.		dB	20	30						
SELF. SND. ATT.		dB	20± 6							
CONTRAST RANGE		dB	4	6						

DESCRITION	UNIT	LIMIT	NOMINAL	NO.1	NO.2	NO.3	NO.4	NO.5	NO.6
SOUND (PAL-BG/SECAM L)									
MAX. OUTPUT PAL/SECAM DK	mW	700/500	1000/600						
THD. OUTPUT 10 %PAL/SECAM	mW	500/400	700/500						
REF. THD PAL/SECAM	%	5/8	3/5						
S /N PAL/SECAM	dB	30/20	35/25						
AM SUPP.	dB	25	30						
MIN. HUM	mV	30	15						
RESPONSE FH 6 KHZ	dB	-3± 6	-3± 3						
FL 125 HZ	dB	-3± 6	-3± 3						
SIF. FREQ. ERROR	KHZ	± 100	0						
LIMIT SENS.	dB	80	70						
PICTURE									
LINEARITY VERT.	%	15	10						
HOR.	%	25	15						
PINCUSHION DIST.	%	2	1						
BARREL DIST.	%	2	1						
KEYSTANE DIST.	%	2	1						
OVERSCAN H/V	%	12/12	8/8						
LUMINANCE MAX	lux	150	200						
VA TEST									
H. V. MAX	KV	16± 1	16						
H. V. MIN	KV	15± 1	15						
REG. VOLTAGE	V	10.8± 0.5	10.8						
DELAY AGC. VOLTAGE	V	5± 0.5	5						
REG. RIPPLE VOLTAGE	mV	30	15						
DC CONSUMPTION	W	50	46						
AC CONSUMPTION	W	55	50						

ALIGNMENT PROCEDURE

REGULATOR ADJUSTMENT

NOTE: MALADJUSTMENT OF THE LOW VOLTAGE REGULATOR OR THE HORIZONTAL OSCILLATOR MAY RESULT IN DAMAGE TO THE HORIZONTAL OUTPUT TRANSISTOR OR PULSE LIMITER DIODE.
THE FOLLOWING PROCEDURES ARE RECOMMENDED TO INSURE SAFE OPERATION.

1. CONNECT THE TV TO AC 198V~264V OR DC 12V~14V.
2. CONNECT A DC DIGITAL VOLTMETER OR OTHER PRECISION ACCURACY VOLTMETER TO THE COLLECTOR OF THE REGULATOR OUTPUT TRANSISTOR.

HORIZONTAL OSCILLATOR ADJUSTMENT

1. POWER ADJUSTMENT
   ADJUST THE AC SWITCHING MODE POWER REGULATOR VR01, ENABLE VOLTMETER TO DC 12.2V AND ADJUST THE POWER REGULATOR VRP2, ENABLE VOLTMETER TO DC 10V6.
2. VERTICAL HIGHTNESS ALIGNMENT
   ADJUST THE VERTICAL HIGHTNESS VRV1 & VRV2, ENABLE THE CIRCLE OF PICTURE APPROACH TO CIRCLE.
3. HORIZONTAL POSITION ALIGNMENT
   ADJUST HORIZONTAL POSITION VRH1, LET THE SQUARE SIGNAL IN THE CENTER OF THE SCREEN.
4. RF AGC ALIGNMENT
   ADJUST VIF PROCESS AGC CONTROL VRI1 AT INPUT SIGNAL INTENSITY 50dB, THE SCREEN COULD LOOKING CLEAR AND 80dB, THE SCREEN DON'T INFLECT.
5. WHITE BALANCE ALIGNMENT
   ADJUST THE VRY4, VRY5, AT CENTER POSITION. ADJUST SCREEN VR, LET THE SCREEN WILL BE LITTLE BRIGHTNESS. ADJUST VRY4 LET THE SCREEN TO BE YELLOW, AND THEN ADJUST VRY5 LET THE SCREEN APPROACH TO WHITE.
6. FOCUS ADJUSTMENT
   ADJUST FOCUS VR, LET THE STRIP IN THE SCREEN TO BE CLEAR.
7. SCREEN ADJUSTMENT
   ADJUST SCREEN VR LET THE BRIGHTNESS SUIT AS DESIRED.

2. SOUND IF ALIGNMENT

TEST EQUIPMENT CONNECTION

SIGNAL GENERATOR: CONNECT TO TEST POINT (T.P) OF THE TUNER THROUGH A MATCHING PAD.

OSCILLOSCOPE: CONNECT TO THE IC01 PIN 50.

ALIGNMENT PROCEDURE

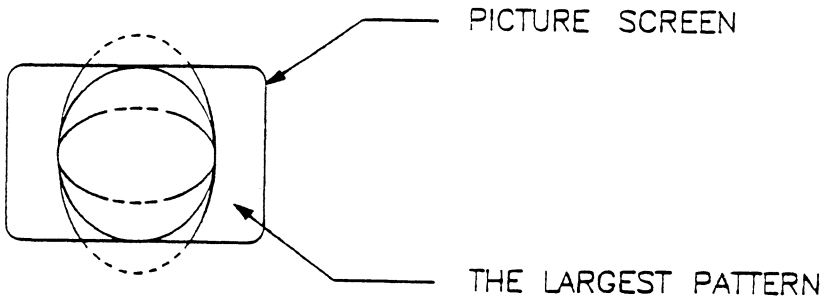
STEP	GENERATOR	SCOPE
DON'T ADJUST (PLEASE CHECK)	SYSTEM B, G, H, 33.4 MHz SYSTEM M,N 41.25 MHz (54.25 MHz FOR JAPAN) SYSTEM I 33.5 MHz. SYSTEM D,K, 32.4 MHz, 1 KHz FM MOD DEVIATION 25 KHz 80 dB OUTPUT.	CONNECT TO THE ICQ1 PIN 1.

3. VERTICAL DEFLECTION ALIGNMENT

(1) TUNE THE RECEIVER IN A TEST PATTERN.

(2) ADJUST V-SIZE CONTROL VRV1 (300 ohm). WHEN THE INSIDE OF THE LARGEST CIRCLE OF TEST PATTERN REACHES NEAR ROUND PATTERN. (SEE THE FIGURE)

(3) IF THE PATTERN NOT AT CENTER POSITION, ADJUST V-POSITION CONTROL VRV2 (2K OHM).



GENERAL ALIGNMENT INSTRUCTIONS

1. VIDEO IF ALIGNMENT

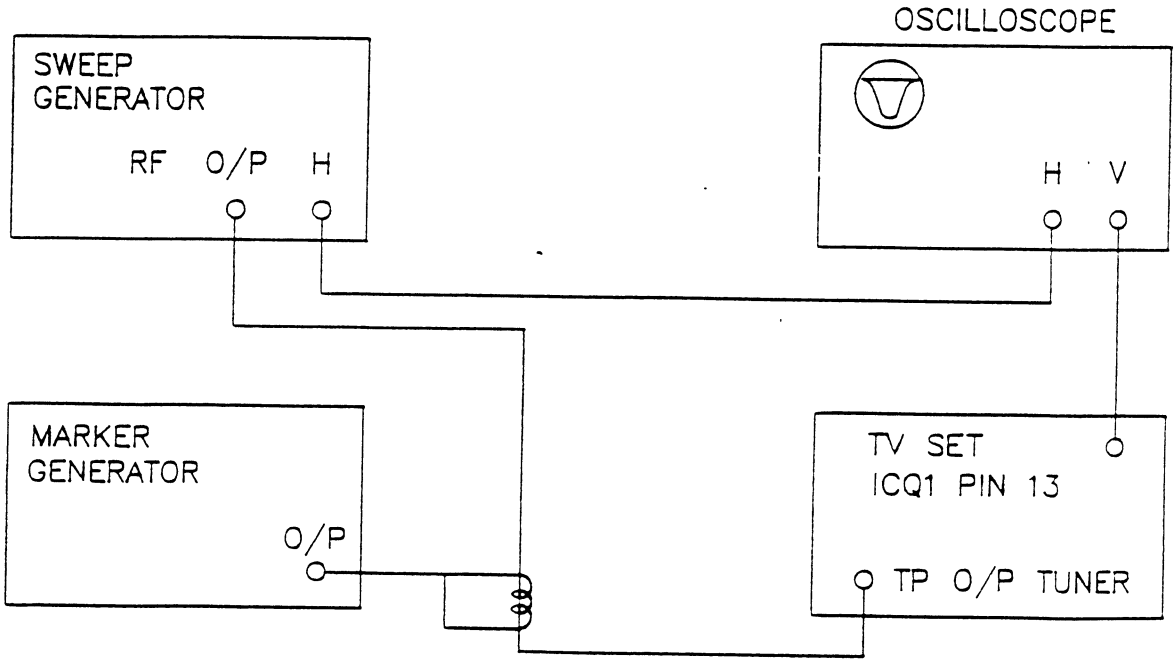
TEST EQUIPMENT CONNECTION (SEE FIGURE).

OSCILLOSCOPE: CONNECT TO THE (1). IC01 PIN 13.
(2). ICR1 PIN 8.

SWEEP GENERATOR: CONNECT THROUGH A MATCHING PAD TO THE TEST POINT (T.P) OF THE TUNER.

MARKER GENERATOR: COUPLE LOOSELY TO THE OUTPUT CABLE OF SWEEP GENERATOR.

ADJUST SWEEP GENERATOR TO LOWEST SIGNAL LEVEL CONSISTENT WITH USABLE			
STEP	SWEEP FREQUENCY	MARKER FREQUENCY	REMARK
ADJUST VIF DETECTOR LI07 FOR MARKER POINT MAX.	25~45 MHz (45~65 MHz FOR JAPAN). 30~50 MHz FOR CCIR.	SYSTEM B, G, H, 38.9 MHz SYSTEM I 36.9 MHz SYSTEM M, N 45.75 MHz (58.75 MHz FOR JAPAN) (34.7 MHz FOR AUSTRARIA SYSTEM)	IN THE PARENTHESIS FOR AFC CORRECTION.



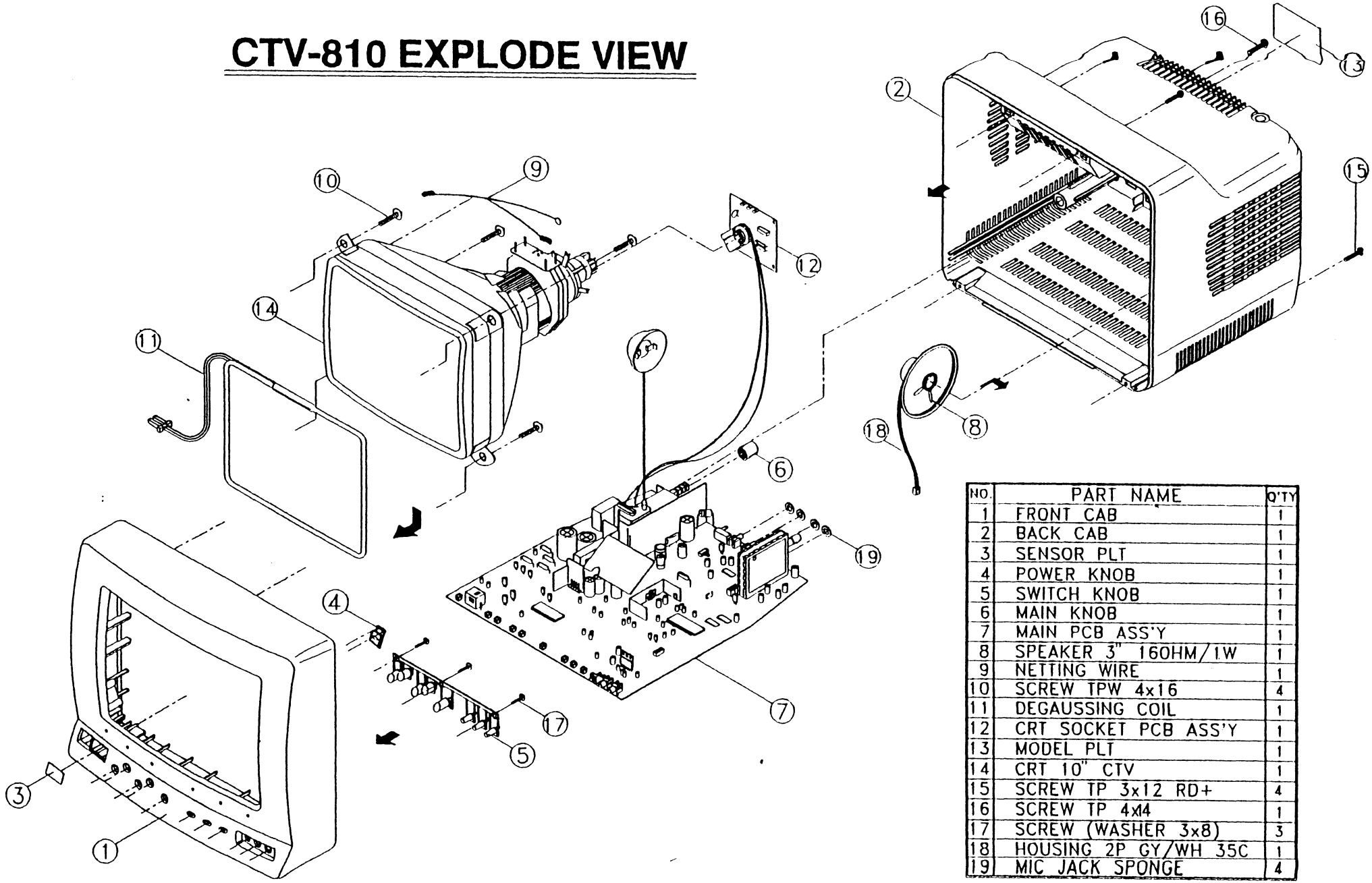
VIDEO IF ALIGNMENT CONNECTING FIGURE

TROUBLESHOOTING

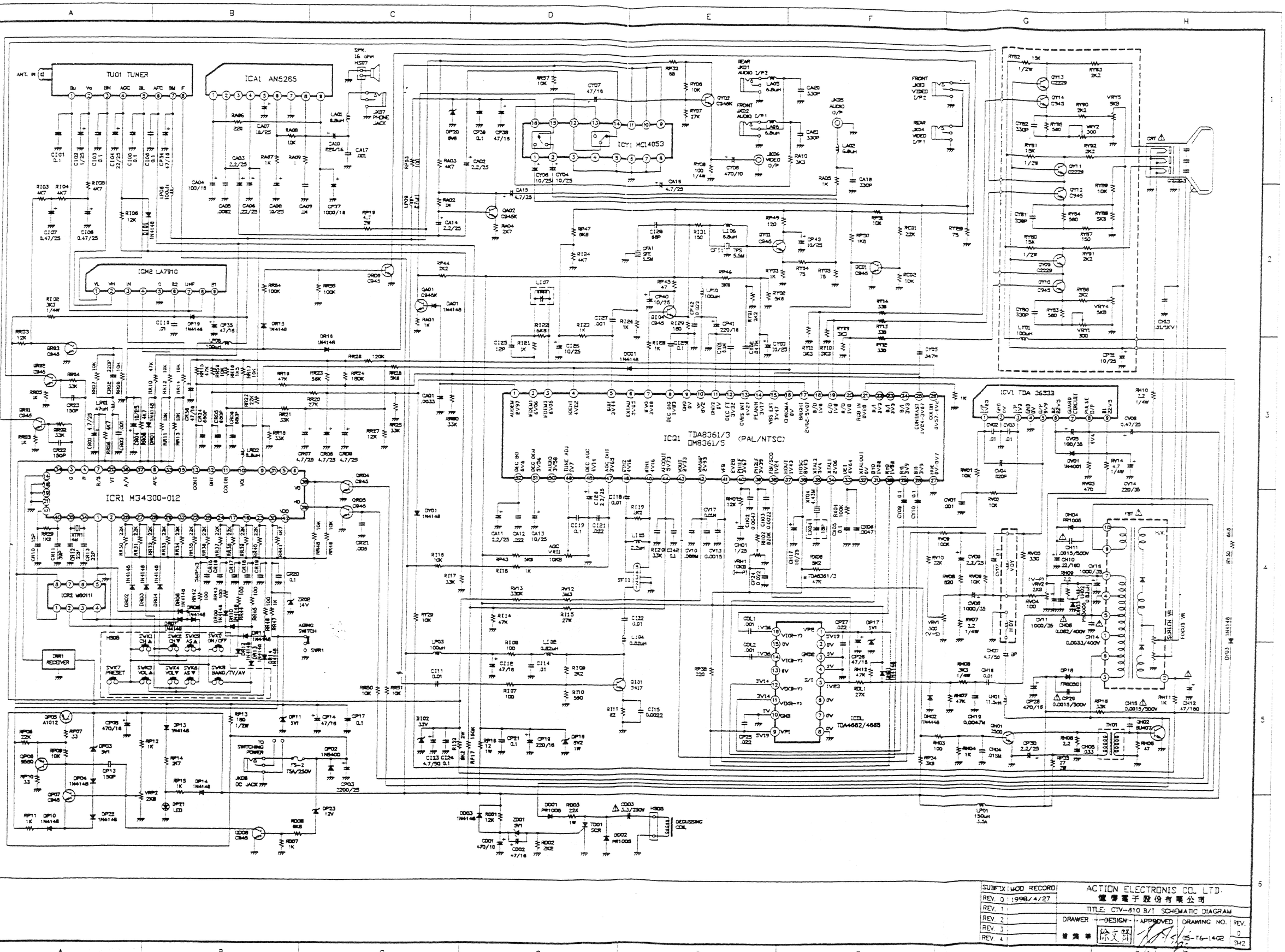
Symptom	Cause	Remedy
TV does not operate.	Defective function, switch (SWK0)	Replace.
	Defective ICR1, DP11 or ICQ1.	Check voltage of ICR1, DP11 and ICQ1. Replace defective compoent(s).
	Broken wire in flyback transformer (FBT).	Check voltage and waveform of FBT. Replace.
	Defective QP05, QP06, QP07.	Check voltage of QP05, QP06 and QP07. Replace the defective transistor.
Picture does not appear.	Sound ok. Defective IFT LI07.	Check voltage of LI07. Replace.
	Broken wire in picture tube socket.	Replace.
	Defective QI01, QI04.	Check voltage of QI01, QI04. Replace.
	Defective ICQ1.	Check voltage of ICQ1. Replace.
	Defective CFI1, SFI1.	Check voltage of CFI1, SFI1. Replace.
	Defective TV tuner.	Check voltage of tuner Replace.

Symptom	Cause	Remedy
Picture does not appear	Defective zener diode DI02.	Check voltage of DI02. Replace.
	Poor contact in antenna.	Repair.
Not sound.	Defective ICR1, ICQ1, ICA1.	Check voltage of ICR1, ICQ1, ICA1. Replace.
	Defective the volume control ICR1.	Replace.
Horizontal and Vertical Synchronization not good.	Defective ICQ1.	Check voltage of ICQ1. Replace.
Horizontal synchronization not good.	Defective ICQ1.	Check voltage of ICQ1. Replace.
Vertical synchronization not good	Defective ICQ1.	Check voltage of ICQ1. Replace. Replace.
Only one horizontal line.	Defective ICQ1, ICV1.	Check voltage of ICQ1. ICV1. Replace.
Reduction of whole screen.	Damaged regulator VRP2, QP05.	Check voltage of VRP2. QP05. Replace.
Dark raster	Defective CRT neck PCB.	Check voltage of CRT. Replace.

CTV-810 EXPLODE VIEW



NO.	PART NAME	Q'TY
1	FRONT CAB	1
2	BACK CAB	1
3	SENSOR PLT	1
4	POWER KNOB	1
5	SWITCH KNOB	1
6	MAIN KNOB	1
7	MAIN PCB ASS'Y	1
8	SPEAKER 3" 16OHM/1W	1
9	NETTING WIRE	1
10	SCREW TPW 4x16	4
11	DEGAUSSING COIL	1
12	CRT SOCKET PCB ASS'Y	1
13	MODEL PLT	1
14	CRT 10" CTV	1
15	SCREW TP 3x12 RD+	4
16	SCREW TP 4x14	1
17	SCREW (WASHER 3x8)	3
18	HOUSING 2P GY/WH 35C	1
19	MIC JACK SPONGE	4



SUBFIX	MOD RECORD
REV. 0	1998/4/27
REV. 1	
REV. 2	
REV. 3	
REV. 4	

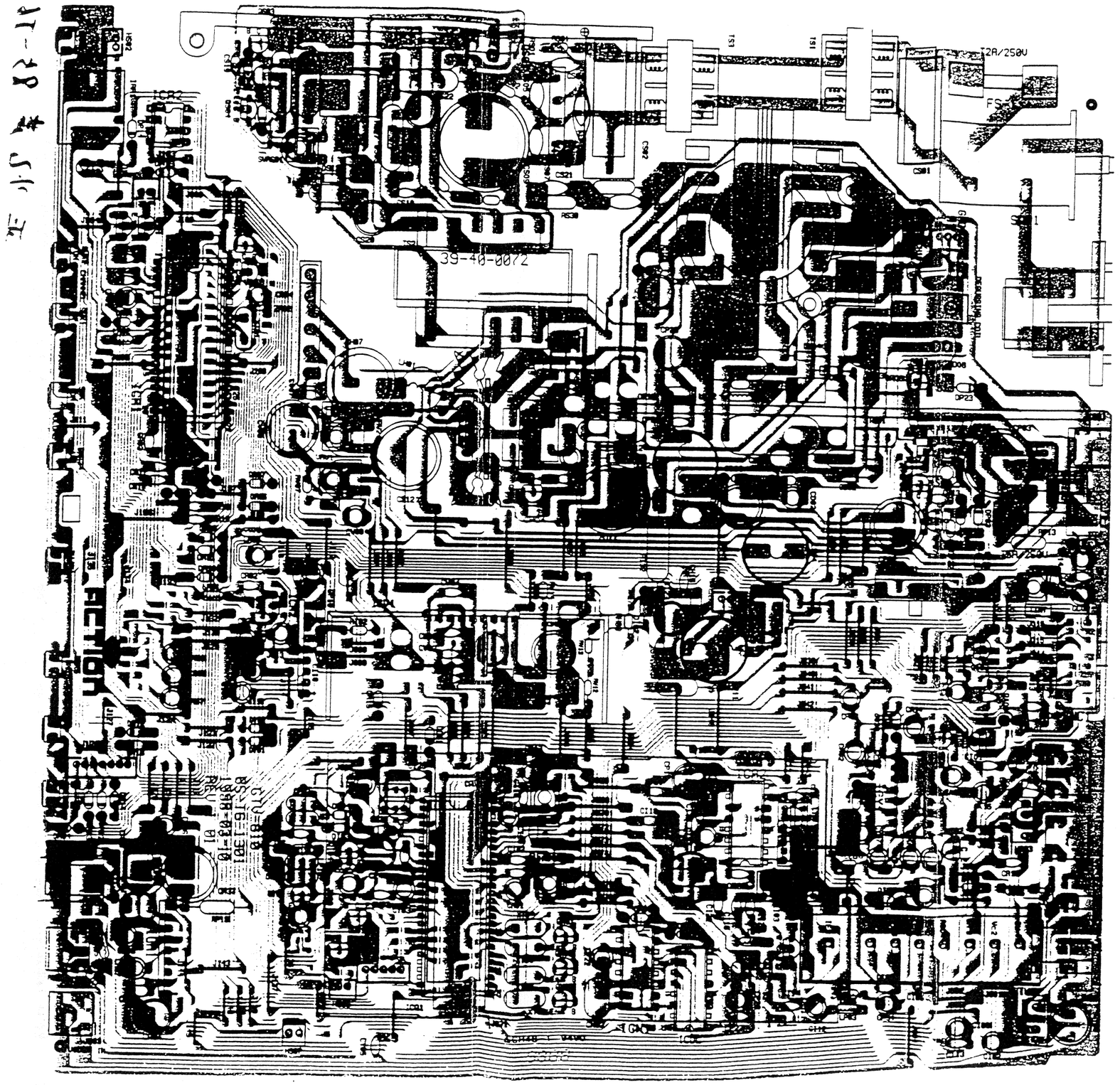
ACTION ELECTRONIS CO., LTD.
偉詮電子股份有限公司

TITLE: CTV-610 B/I SCHEMATIC DIAGRAM

DRAWER	DESIGN	APPROVED	DRAWING NO.	REV.
曾瑞華	徐文財		05-T6-1402	0

SH2

MAIN P.C.B TOP VIEW



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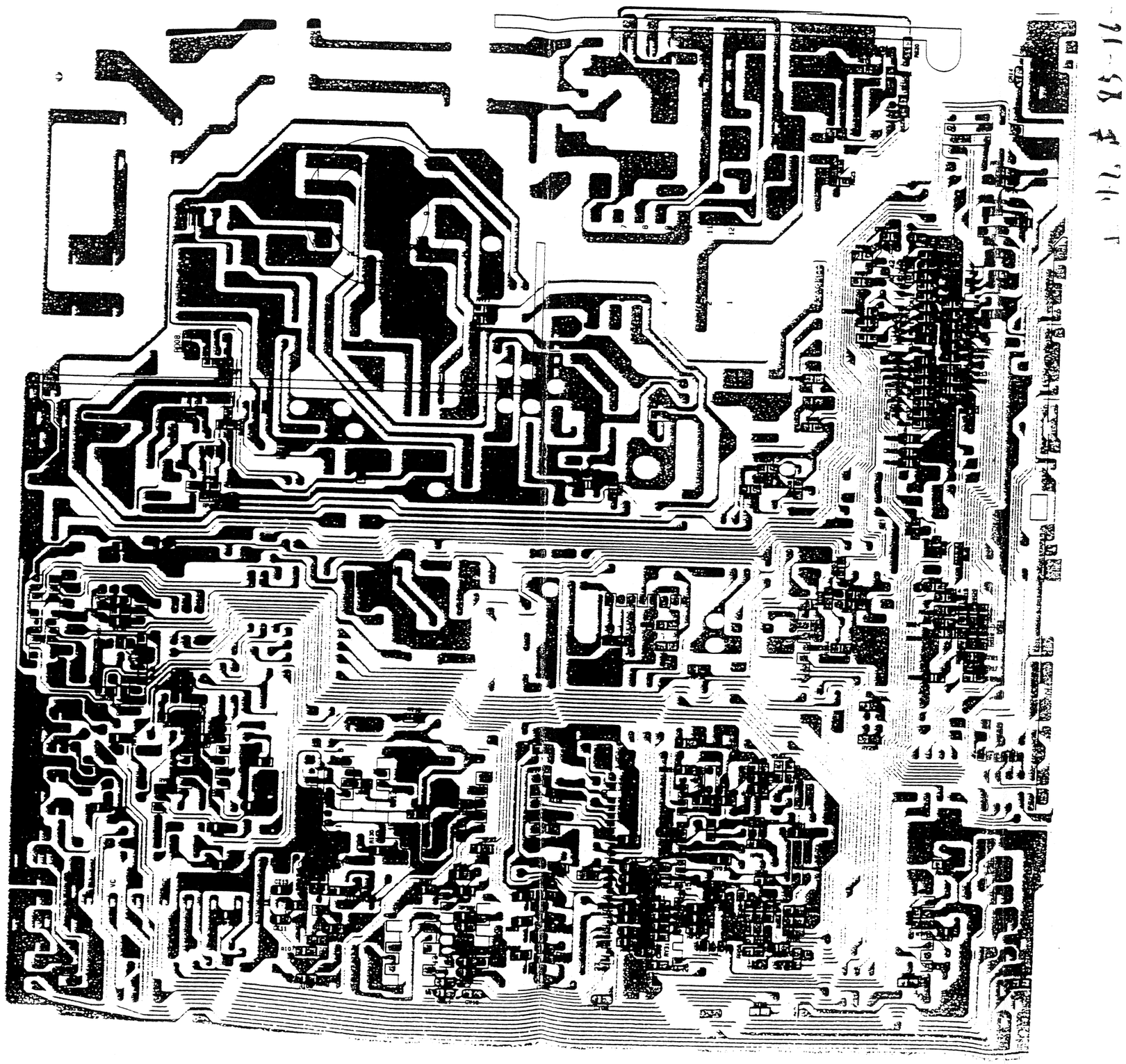
MAIN P.C.B BOTTOM VIEW



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